

**DEVICES AND METHODS FOR PERFORMING ARRAY BASED ASSAYS**

**ABSTRACT OF THE DISCLOSURE**

**[00155]** Devices and methods for performing an array assay are provided. The subject array assay devices include a degassing zone that includes a gas permeable membrane. Embodiments include degassing microarray-backing elements that are used with an array assembly to provide an enclosed assay array chamber about at least one array of the array assembly. The degassing backing elements include: (1) a substrate having a surface comprising at least one gasket, and (2) a gas permeable membrane. Embodiments also include array assemblies that include a degassing zone, for example positioned on an array substrate. Embodiments of the subject methods include contacting an array with a sample under conditions sufficient to perform an array assay, wherein the contacting step further includes degassing the sample. Also provided are systems and kits for use in practicing the subject methods.